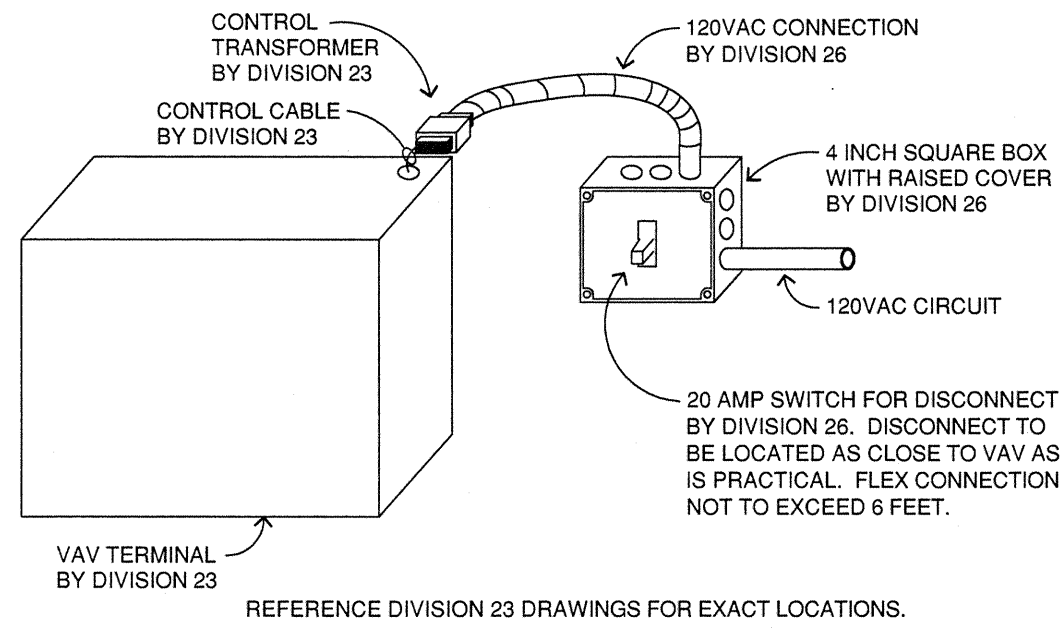


ELECTRICAL SYMBOLS LEGEND					
THIS IS A COMPREHENSIVE SYMBOL SCHEDULE. NOT ALL SYMBOLS ARE APPLICABLE TO THESE DRAWINGS					
SYMBOLS	DESCRIPTION	MOUNTING HEIGHT TO CENTER OF DEVICE UNLESS OTHERWISE INDICATED	SYMBOLS	DESCRIPTION	MOUNTING HEIGHT TO CENTER OF DEVICE UNLESS OTHERWISE INDICATED
	CEILING SURFACE MOUNTED LIGHT FIXTURE, CAPITAL LETTER INDICATES FIXTURE TYPE, SMALL LETTER INDICATES SWITCHING.			ENCLOSED MOLDED CASE CIRCUIT BREAKER 30A/2P UON (WALL RECESSED)	
	RECESSED CEILING MOUNTED LIGHT FIXTURE			VARIABLE FREQUENCY CONTROLLER	
	CONNECTED TO EMERGENCY POWER			THERMAL SWITCH (MOTOR OVERLOAD TYPE)	48 INCHES
	WALL MOUNTED INCAND. OR H.I.D. LIGHT FIXTURE, SURFACE OR, RECESSED MOUNTED.			THERMOSTAT - PROVIDE BY DIVISION 26	48 INCHES
	CEILING-MOUNTED JUNCTION BOX (\"C\" INDICATES EMERGENCY CRITICAL BRANCH POWER, \"L\" INDICATES EMERGENCY LIFE SAFETY POWER, \"E\" INDICATES EMERGENCY EQUIPMENT POWER)			THERMOSTAT - FURNISHED BY DIVISION 23, INSTALLED BY DIVISION 26	48 INCHES
	WALL JUNCTION BOX	18 INCHES		HASH MARKS INDICATE ITEM NOTED TO BE REMOVED	
	CEILING EXIT SIGN, SHADED SIDE INDICATES LIGHTED FACE, ARROWS INSTALLED AS SHOWN			SPEAKER	
	WALL EXIT SIGN	6 INCHES ABOVE DOOR FRAME TO BOTTOM		WALL MOUNTED SPEAKER	80 INCHES TO BOTTOM
	SUSPENDED FIXTURE			CLOCK	94 INCHES TO BOTTOM
	SURFACE FLUORESCENT			MICROPHONE OUTLET	18 INCHES
	RECESSED FLUORESCENT			VOLUME CONTROL	48 INCHES
	FIXTURE CONNECTED TO EMERGENCY POWER			SECURITY DEVICES: REQUEST TO EXIT	3 INCHES ABOVE DOOR FRAME
	DASHED LINES INDICATE EXISTING FIXTURES, DEVICES, OR EQUIPMENT			DOOR POSITION SWITCH, RECESSED	
	EMERGENCY BATTERY LIGHT	7 FOOT 6 INCHES		DOOR POSITION SWITCH, SURFACE MOUNT	
	EMERGENCY REMOTE LAMP	7 FOOT 6 INCHES		DOOR POSITION SWITCH	
	SWITCH: SINGLE POLE (HORSEPOWER RATED WHEN USED AS MOTOR DISCONNECT)	48 INCHES		CARD READER	48 INCHES
	DOUBLE POLE	48 INCHES		CEILING MOUNTED MOTION SENSOR SWITCH	
	3-WAY	48 INCHES		CEILING MOUNTED MOTION SENSOR SWITCH, 90° COVERAGE	
	4-WAY	48 INCHES		CEILING MOUNTED MOTION SENSOR SWITCH, 180° COVERAGE	
	KEY OPERATED	48 INCHES		CEILING MOUNTED MOTION SENSOR SWITCH, 360° COVERAGE	
	WITH PILOT LIGHT (CAN BE USED WITH OTHER SWITCH TYPES)	48 INCHES		CEILING MOUNTED MOTION SENSOR SWITCH, HALLWAY COVERAGE	
	FLUORESCENT DIMMER	48 INCHES		WALL MOUNTED MOTION SENSOR, 90° COVERAGE	
	MOMENTARY CONTACT	48 INCHES		WALL MOUNTED MOTION SENSOR, 180° COVERAGE	48 INCHES
	DIMMER (600 WATT UNLESS OTHERWISE NOTED)	48 INCHES		MOTION SENSOR SWITCH POWER PACK	
	LIGHTING INTENSITY SELECTOR	48 INCHES		AUXILIARY INPUT OUTLET	18 INCHES
	LOW VOLTAGE SWITCH	48 INCHES		COMPUTER OUTLET (NUMBER INDICATES QUANTITY OF CABLES AND JACKS, NO NUMBER INDICATES ONE)	18 INCHES
	DUPLEX RECEPTACLE (\"C\" INDICATES EMERGENCY CRITICAL BRANCH POWER)	18 INCHES		COMBINATION COMPUTER/TELEPHONE OUTLET IN SINGLE GANG OPENING (NUMBER INDICATES QUANTITY OF CABLES AND JACKS, NO NUMBER INDICATES ONE)	18 INCHES
	DOUBLE DUPLEX RECEPTACLE (\"C\" INDICATES EMERGENCY CRITICAL BRANCH POWER)	18 INCHES		TELEPHONE OUTLET (\"W\" INDICATES WALL MOUNTED AT 48 INCHES)	18 INCHES
	SPECIAL PURPOSE RECEPTACLE LETTER INDICATES TYPE, SEE SPECIFICATION	18 INCHES		DATA PATCH PANEL	
	MULTI-OUTLET ASSEMBLY - M.O.A., PROVIDE DEVICES AS SHOWN ON PLANS	18 INCHES		COMPUTER/TELEPHONE OUTLET, PROVIDE ROUGH-IN AND CONDUIT ONLY	18 INCHES
	DUPLEX RECEPTACLE, HALF SWITCHED	18 INCHES		TELEVISION OUTLET	18 INCHES
	FLOOR OUTLET, ADDITIONAL SYMBOL INDICATES TYPE			INTERCOM OUTLET	18 INCHES
	TIME SWITCH			INTERCOM MASTER	
	PHOTO CELL			INTERCOM STAFF STATION	
	TRANSFORMER			BUZZER	
	FIRE ALARM: MANUAL STATION	48 INCHES		PUSH BUTTON	
	RATE OF RISE DETECTOR			POWER DOOR HANDICAP PUSH PAD	42 INCHES
	FIXED TEMPERATURE DETECTOR			BELL	
	DUCT PHOTOELECTRIC DETECTOR			CONTACTOR (NUMBER INDICATES NUMBER OF POLES)	
	PHOTOELECTRIC DETECTOR (\"S\" INDICATES SLEEPING ROOM WITH AUX. CONTACT, \"G\" INDICATES WITH GUARD, \"E\" INDICATES FOR ELEVATOR RECALL)			WEATHERPROOF	
	COMBINATION HEAT/SMOKE WITH STROBE SOUNDER BASE DETECTOR			ABOVE COUNTER	
	COMBINATION FIRE/SMOKE DAMPER OR SMOKE DAMPER BY DIVISION 23			ELECTRIC WATER COOLER	
	HORN (\"S\" INDICATES WITH STROBE LIGHT)	BOTTOM OF LENS 80 INCHES		NURSE CALL: CORRIDOR CALL OR ZONE LIGHT	
	SPEAKER HORN (\"S\" INDICATES WITH STROBE LIGHT)	BOTTOM OF LENS 80 INCHES		MASTER STATION	
	CHIME (\"S\" INDICATES WITH STROBE LIGHT)	BOTTOM OF LENS 80 INCHES		PATIENT EMERGENCY STATION	48 INCHES
	FIRE ALARM MODULE/RELAY			SINGLE BED PATIENT STATION	
	FAN RELAY			STAFF STATION	48 INCHES
	STROBE LIGHT	BOTTOM OF LENS 80 INCHES		DUTY STATION	48 INCHES
	MAGNETIC DOOR HOLD OPEN			DOUBLE BED PATIENT STATION	
	INTEGRAL MAGNETIC DOOR CLOSER (PROVIDED BY DIVISION 08)			EMERGENCY (CODE BLUE)	
	TAMPER SWITCH (NUMBER INDICATES NUMBER OF DEVICES AT THIS LOCATION)			NURSE LOCATOR	
	FIRE PUMP			STAFF ASSIST	48 INCHES
	FLOW SWITCH			STAFF REGISTER	
	FIRE ALARM CONTROL PANEL			EMERGENCY PUSH BUTTON	48 INCHES
	FIRE ALARM ANNUNCIATOR			UNIT INTERFACE	
	LIGHTING AND APPLIANCE PANELBOARD			TELEMETRY ANTENNA	
	SWITCHBOARD OR MOTOR CONTROL CENTER AS NOTED			CONDUIT CONCEALED IN WALL OR CEILING, QUANTITY OF CONDUCTORS NOT SHOWN, PROVIDE AS REQUIRED FOR DEVICE/CIRCUIT NUMBERS SHOWN.	
	CONTROL CABINET BY DIVISION 23			CONDUIT UP	
	SPECIAL EQUIPMENT CABINET AS NOTED			CONDUIT DOWN	
	POWER POLE			CONDUIT CONCEALED IN FLOOR	
	MOTOR (NUMBER REFERS TO MOTOR AND EQUIPMENT SCHEDULE SEE SCHEDULE FOR WIRING AND CONTROL REQUIREMENTS)			HOME RUN TO PANELBOARD, QUANTITY OF CONDUCTORS REQUIRED NOT INDICATED, PROVIDE QUANTITY AS REQUIRED FOR CIRCUIT NUMBERS SHOWN, SWITCHING ARRANGEMENT, OR NUMBER OF HOME RUNS SHOWN. #10 INDICATES WIRE SIZE, NO NUMBERS INDICATES #12, 3/4 INCH CONDUIT MINIMUM.	
	DISCONNECT (\"F\" INDICATES FUSED WHEN SHOWN)			SURFACE CONDUIT OR SURFACE RACEWAY	
	MAGNETIC STARTER			WIRE BASKET TYPE CABLE TRAY	
	COMBINATION STARTER-DISCONNECT			COMMUNICATIONS CABLE SUPPORT HANGER	
	UL 924 RELAY			LIGHTING CIRCUIT DESIGNATION AND PLAN NOTE REFERENCE NUMBER	
	NOTE IDENTIFICATION			LIGHTING CIRCUIT DESIGNATION	

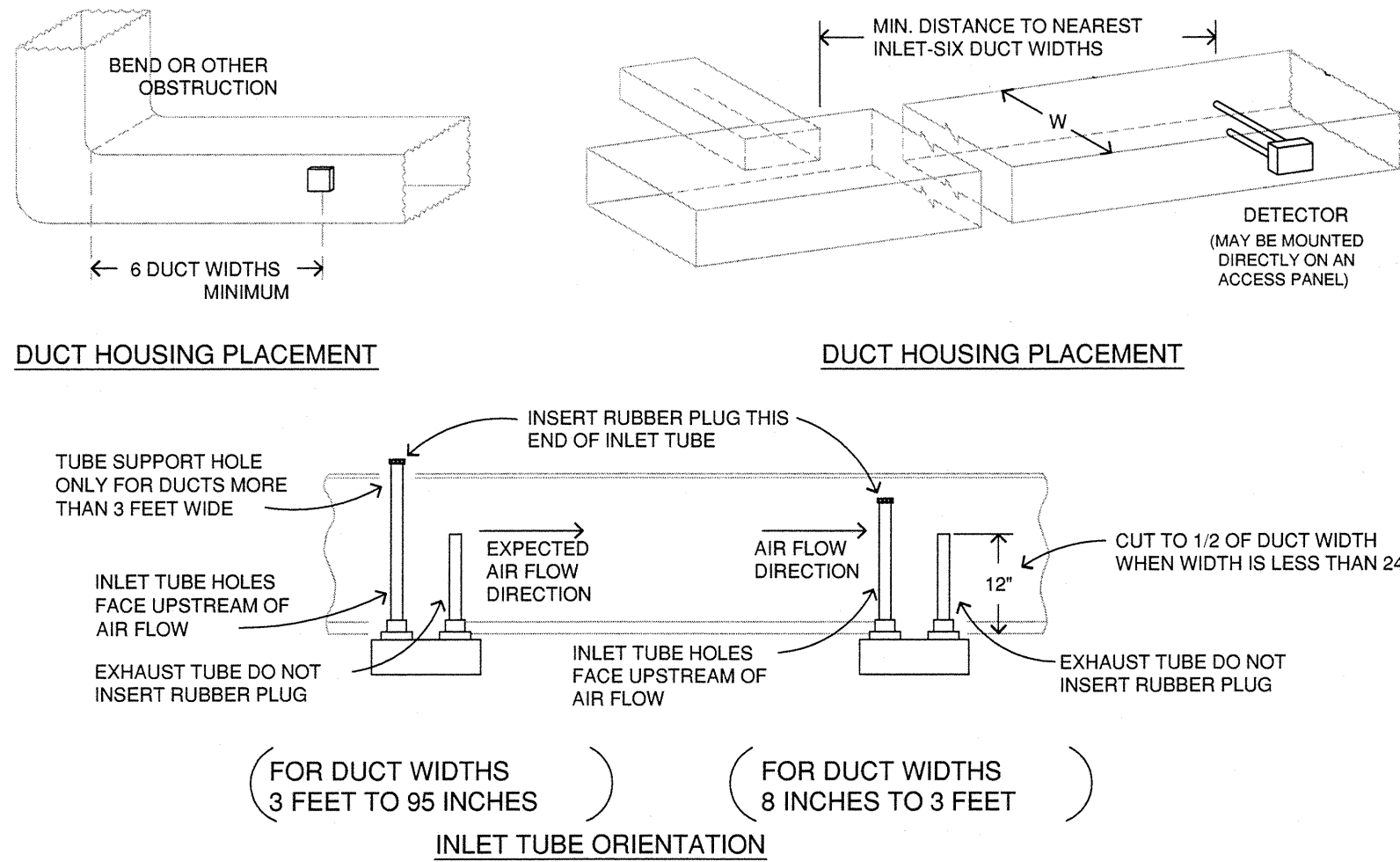
NOTES:
1. FOR DEVICES SHOWN AS 48 INCHES MOUNTING HEIGHT, WHEN INSTALLED IN MASONRY BLOCK WALLS, MOUNTING AT 48 INCHES TO THE TOP OF THE OUTLET BOX IS ACCEPTABLE.

GENERAL ELECTRICAL NOTES (APPLY TO ALL DRAWINGS):

- CONTRACTOR SHALL VERIFY EXISTING CONDITIONS & SHALL COORDINATE EQUIPMENT INSTALLATION WITH VA ENGINEERING STAFF.
- CONTRACTOR SHALL REPLACE ANY ACOUSTICAL CEILING TILES, PORTIONS OF THE SUSPENSION SYSTEM OR EXPOSED GRID SYSTEM DAMAGED BY HIS WORK OR REMOVAL OF EXISTING EQUIPMENT.
- CONTRACTOR SHALL MAINTAIN A CLEAN WORKING ENVIRONMENT. EQUIPMENT, PARTS & TOOLS SHOULD BE SECURED & MONITORED WHEN WORK IS TO BE DONE IN PATIENT AREAS.
- ALL CONDUIT PENETRATING THE FLOOR SLAB OR SMOKE BARRIER SHALL BE SEALED TIGHT WITH AN APPROVED FIRE STOP SEALANT RESTORING THE FLOOR SLAB OR SMOKE BARRIER TO ITS ORIGINAL RESISTANCE, REFERENCE SPECIFICATION SECTION 078400.
- ALL ELECTRICAL CONDUIT SHALL BE CONCEALED IN WALLS OR CEILINGS IN FINISHED AREAS UNLESS ALLOWED OTHERWISE ON THE PLANS.
- DO NOT STORE MATERIALS IN OCCUPIED AREAS OF THE BUILDING.
- VA MEDICAL STAFF WILL BE CONDUCTING THEIR NORMAL DUTIES IN ALL AREAS OF THE BUILDING DURING CONSTRUCTION. CARE SHALL BE TAKEN TO MINIMIZE DISRUPTION OF HOSPITAL FUNCTIONS AT ALL TIMES. CONTRACTOR SHALL CONFINER WORK TO IMMEDIATE AREA CONCERNED & SHALL MAINTAIN CLEANLINESS & PATHWAY TO EXITS AT ALL TIMES.
- ALL FIRE ALARM, NURSE CALL & ELECTRICAL SYSTEM SHUTDOWNS TO BE SCHEDULED 48 HOURS IN ADVANCE WITH THE VA & MAY BE REQUIRED TO BE ACCOMPLISHED OUTSIDE NORMAL WORKING HOURS.
- DUST BARRIERS SHALL BE PROVIDED DURING CUTTING & PATCHING OPERATIONS. NOISE SHALL BE KEPT TO A MINIMUM & DRILLING & OTHER NOISE PRODUCING OPERATIONS MAY HAVE TO BE ACCOMPLISHED AFTER NORMAL WORKING HOURS. COORDINATE TIMES & LOCATIONS FOR NOISY OPERATIONS WITH THE VA.
- FOR THE DEMOLITION PLANS, NOT ALL ELECTRICAL ITEMS REQUIRING DEMOLITION MAY BE SHOWN. VISIT SITE BEFORE BIDDING & BECOME FAMILIAR WITH WORK REQUIRED.
- CONTRACTORS ARE TO COORDINATE ALL WORK WITH THE CONTRACTING OFFICERS TECHNICAL REPRESENTATIVE (COTR), CLEAN ALL DEBRIS FROM THE CONSTRUCTION SITE TO THE SATISFACTION OF THE COTR.



1 VAV BOX CONNECTION DETAIL
E1 SCALE: NONE



- NOTES:
- PROVIDE DUCT SMOKE DETECTORS FOR EACH AIR HANDLING UNIT (AHU) MAIN SUPPLY BRANCH AND IN THE RETURN DUCT. AHU SUPPLY SIDE DETECTORS SHALL BE LOCATED ON DOWNSTREAM SIDE OF FILTERS. ALL DETECTOR LOCATIONS SHALL BE MINIMUM SIX DUCT WIDTHS AWAY FROM ANY INLET, TURN, OR ANY OTHER TURBULENCE CAUSING OBSTRUCTION.
 - CONTRACTOR SHALL PROVIDE AND INSTALL A REMOTE INDICATOR FOR EACH CONCEALED DUCT SMOKE DETECTOR. INDICATOR SHALL BE MOUNTED IN A CLEARLY VISIBLE LOCATION, AND SHALL BE READILY ACCESSIBLE FOR MAINTENANCE AND TESTING. PROVIDE CONDUIT OR WIREMOLD AS REQUIRED (SEE FIRE ALARM NOTES). VERIFY LOCATION IN FIELD.

2 TYPICAL DUCT SMOKE DETECTOR DETAIL
E1 SCALE: NONE

No.	REVISION	DATE



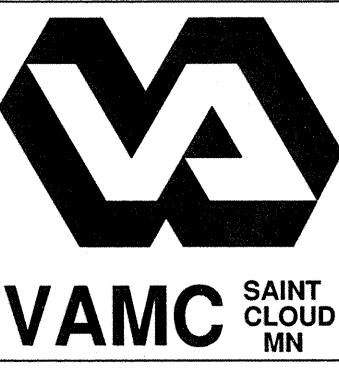
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

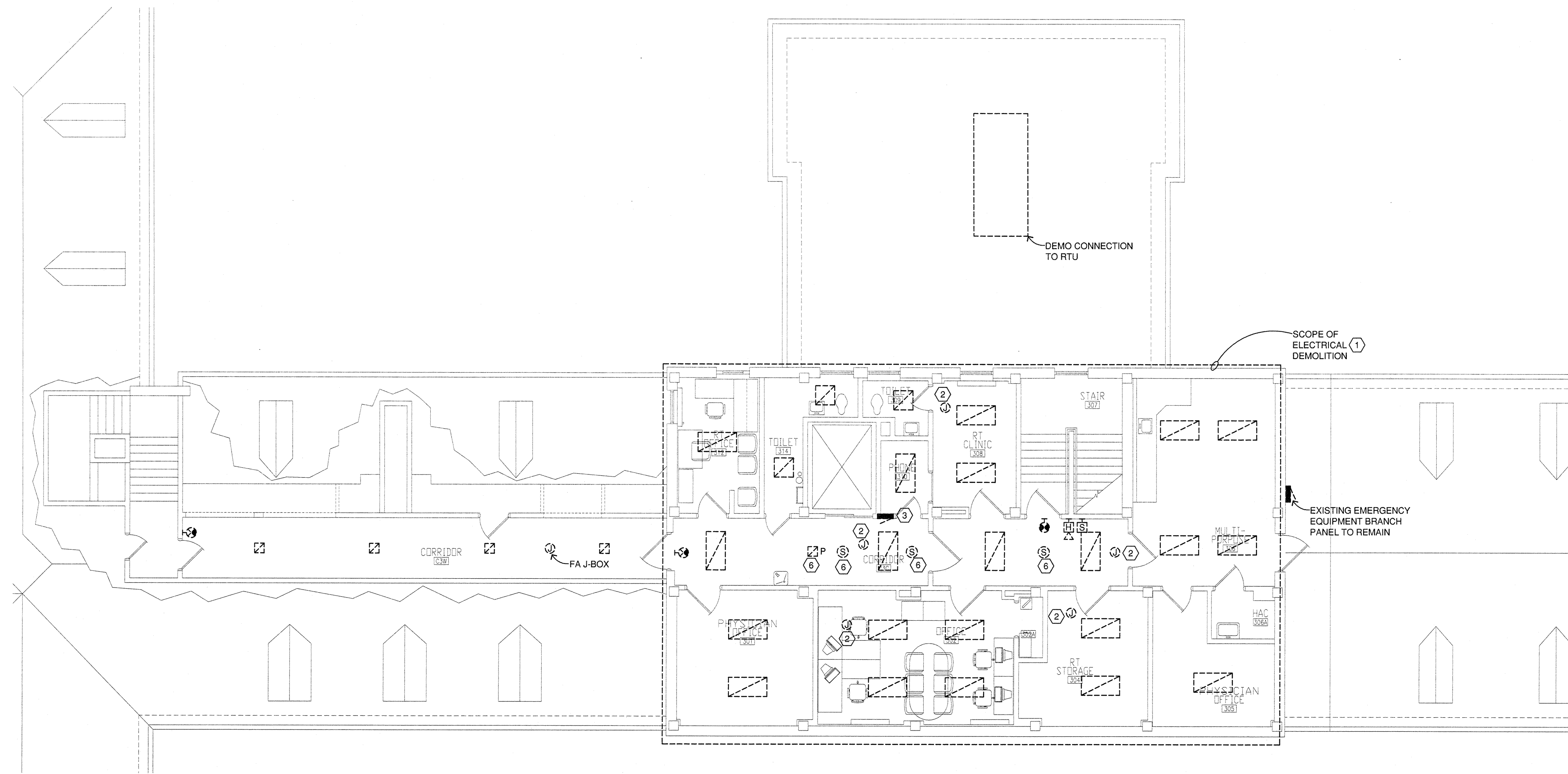
Print Name: Anthony R. Nelson

Signed: Anthony R. Nelson

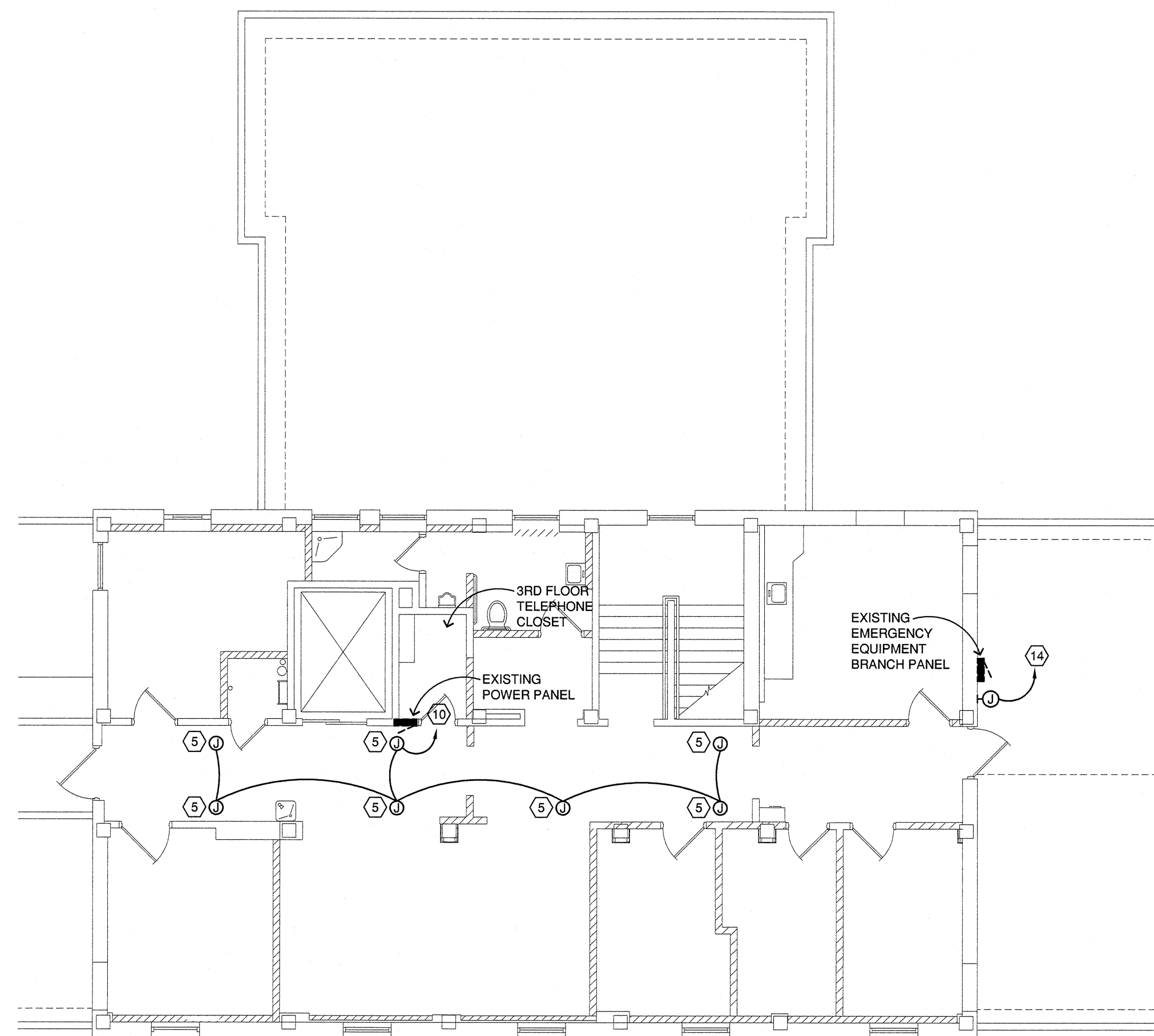
Date: 07/22/11 License Number: 48553

APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED INFECTION CONTROL NURSE	DATE	DRAWING TITLE	PROJECT TITLE	DATE
APPROVED SERVICE LINE DIRECTOR	DATE	APPROVED PATIENT SAFETY	DATE	ELECTRICAL SYMBOL LEGEND, SCHEDULES, AND DETAILS	THIRD FLOOR HVAC BUILDING 1	JULY 22, 2011
APPROVED PROJECTS SECTION MANAGER	DATE	APPROVED CHIEF OF POLICE	DATE	APPROVED CHIEF OF STAFF	BUILDING No. TN	PROJECT NO. 656-10-178
APPROVED DIRECTOR FMS	DATE	APPROVED SAFETY MANAGER	DATE	APPROVED MEDICAL CENTER DIRECTOR	DESIGNED BY CK	CAD FILE
					LOCATION VA MEDICAL CENTER ST. CLOUD, MN, 56303	DRAWING NO. E1 DWG. 7 OF 8

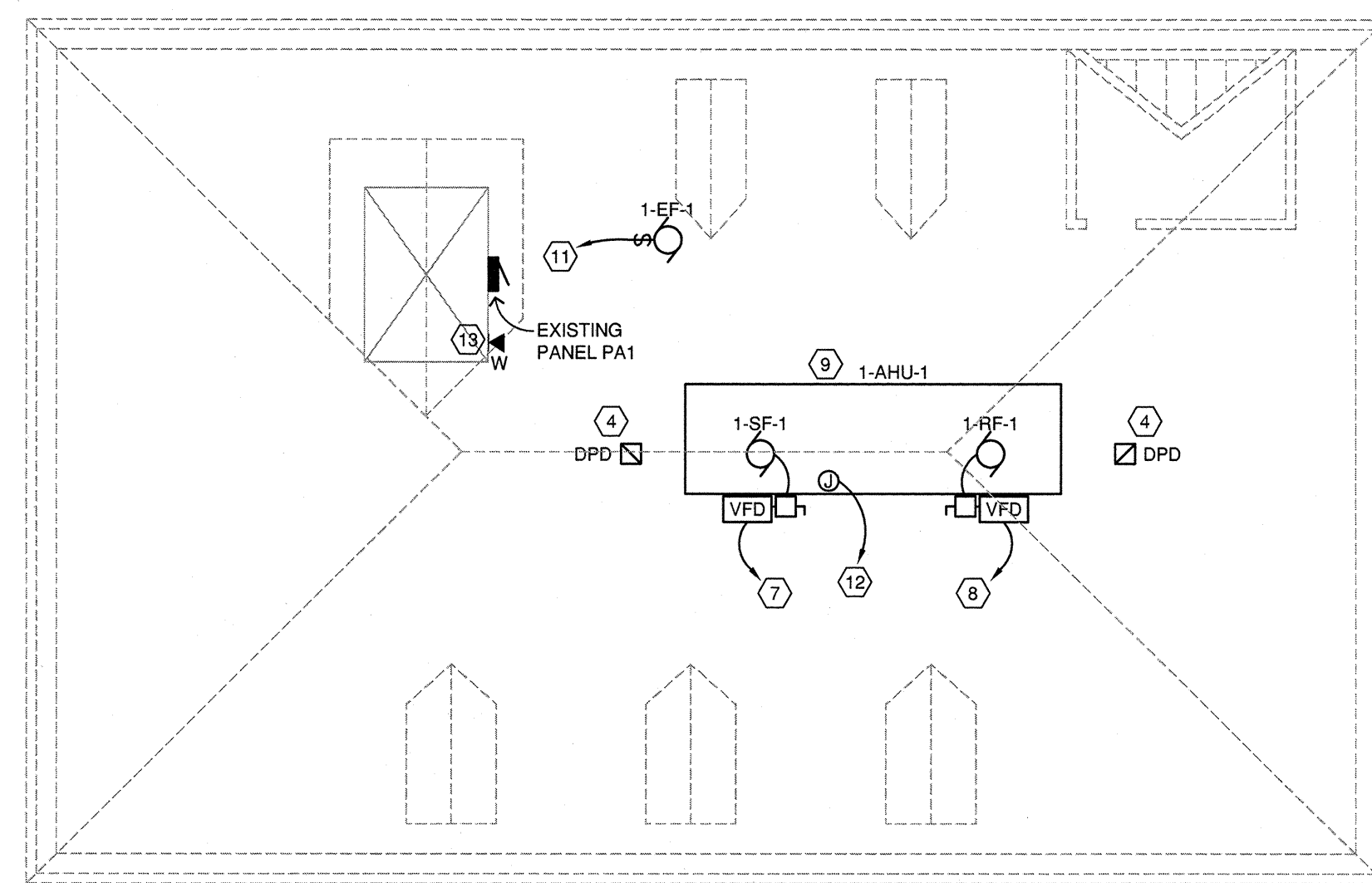




1 3RD FLOOR ELECTRICAL DEMOLITION PLAN
0' 4' 8' 16'



2 3RD FLOOR POWER AND SYSTEMS PLAN
0' 4' 8' 16'



3 ATTIC POWER AND SYSTEMS PLAN
0' 4' 8' 16'

GENERAL NOTES:

1. PROVIDE SUPPORT FOR ANY CABLING, CONDUIT OR OTHER WIRING SYSTEMS THAT MAY BE LAYING OR ATTACHED TO THE CEILING. PROVIDE SUPPORT IN ACCORDANCE WITH THE NEC. PROVIDE J-HOOKS SPACED A MAXIMUM OF 8'-0" O.C.
2. DISCONNECT ALL LIGHT FIXTURES, EXIT SIGNS, AND FIRE ALARM SYSTEM EQUIPMENT LOCATED IN CEILINGS. EXISTING LIGHTING FIXTURES AND LAMPS SHALL BE RETURNED TO OWNER'S STOCK FOR HIS ACCEPTANCE OR REFUSAL. ALL MATERIAL REJECTED SHALL BE PROPERLY DISPOSED OF BY THE DIVISION 28 CONTRACTOR.
3. EXISTING POWER DEVICES TO BE DEMOLISHED WITHIN THE SCOPE OF THIS PROJECT SUCH AS RECEPTACLES, FIRE ALARM DEVICES, DATA/TELECOM OUTLETS, WALL SWITCHES, ETC SHALL BE RETURNED TO OWNER'S STOCK FOR HIS ACCEPTANCE OR REFUSAL. ALL MATERIAL REJECTED BY THE OWNER SHALL BE PROPERLY DISPOSED OF BY THE DIVISION 28 CONTRACTOR.
4. ALL EXISTING CONDUCTORS/CONDUIT TO BE DEMOLISHED WITHIN THE SCOPE OF THIS PROJECT SHALL BE REMOVED BACK TO THEIR SOURCE. THIS INCLUDES POWER, DATA/TELECOM, FIRE ALARM, AND LIGHTING. SOME NEW CONDUCTOR/CONDUIT MAY BE REQUIRED TO CONNECT EXISTING RECEPTACLES DEACTIVATED DURING DEMOLITION.
5. UNLESS OTHERWISE INDICATED SYSTEMS AND EQUIPMENT SHALL BE KEPT OPERATIONAL DURING CONSTRUCTION, COORDINATE WITH OTHER TRADES, AND CONDUCT THE DEMOLITION AND REMODEL TO AVOID DAMAGING EXISTING SYSTEMS AND INSTALLATIONS TO REMAIN. DAMAGE TO ANY EXISTING SYSTEMS AND INSTALLATIONS SHALL BE REPAIRED AND/OR REPLACED TO ITS ORIGINAL CONDITION/FUNCTION AT NO COST TO THE OWNER.
6. ALL PA SPEAKERS AND SMOKE DETECTORS IN THE SCOPE OF WORK ARE REMOVED FROM THE CEILING GRID DURING THE DEMOLITION PHASE. SALVAGED, ACCEPTABLY CLEANED, AND REMOUNTED IN THE NEW CEILING GRID.
7. NEW FLOOR PLAN SHOWN FOR INFORMATION ONLY. REMODEL BY OTHERS UNDER SEPARATE CONTRACT.
8. ALL NEW LIGHTING TO BE PROVIDED / INSTALLED UNDER SEPARATE PROJECT.

PLAN NOTES:

1. NOT ALL ELECTRICAL DEVICES / CONNECTIONS TO BE DEMOLISHED MAY BE SHOWN. WALL MOUNTED EQUIPMENT TO REMAIN. VERIFY SCOPE OF ELECTRICAL DEMOLITION WITH COTR.
2. DEMO CONNECTIONS TO EXISTING VAV. VERIFY LOCATIONS AND QUANTITY WITH MECHANICAL.
3. EXISTING POWER PANEL TO REMAIN.
4. LOCATE KEYED TEST SWITCH FOR DUCT SMOKE DETECTOR AT ACCESSIBLE LOCATION INSIDE ATTIC. COORDINATE LOCATIONS WITH COTR. SEE DETAIL 2/E1 FOR DUCT DETECTOR INSTALLATION DETAILS.
5. CONNECTION TO NEW VAV BOX. COORDINATE EXACT LOCATION WITH DIV. 23 CONTRACTOR. SEE DETAIL 1/E1 FOR ADDITIONAL REQUIREMENTS.
6. REMOVE AND REINSTALL CEILING MOUNTED DEVICE. CEILING WORK COMPLETED UNDER SEPARATE CONTRACT BY OTHERS.
7. PROVIDE (3) #8 & #10G IN 3/4" C. TO EXISTING ATTIC PANEL PA1. PROVIDE 20A/3P MCCB IN PANEL. MATCH PANEL SPECIFICATIONS 22KAIC MINIMUM. PROVIDE 30A/3P NON-FUSED DISCONNECT AT MOTOR CONNECTION LOCATION. VFD PROVIDED BY DIVISION 23, MOUNTED, WIRED, AND CONNECTED BY DIVISION 28. PROVIDE UNISTRUT AS NECESSARY TO MOUNT VFD & DISCONNECT.
8. PROVIDE (3) #12 & #12G IN 3/4" C. TO EXISTING ATTIC PANEL PA1. PROVIDE 20A/3P MCCB IN PANEL. MATCH PANEL SPECIFICATIONS 22KAIC MINIMUM. PROVIDE 30A/3P NON-FUSED DISCONNECT AT MOTOR CONNECTION LOCATION. VFD PROVIDED BY DIVISION 23, MOUNTED, WIRED, AND CONNECTED BY DIVISION 28. PROVIDE UNISTRUT AS NECESSARY TO MOUNT VFD & DISCONNECT.
9. SEVERAL CONDUITS ARE IN PLACE WHERE AHU IS TO BE INSTALLED. RELOCATE EXISTING CONDUITS AND EXTEND EXISTING CONDUITS AS NECESSARY FOR AHU INSTALLATION.
10. PROVIDE (2) #12 & #12 G. IN 3/4" C. TO EXISTING 3RD FLOOR POWER PANEL. PROVIDE 20A/1P MCCB IN PANEL AS NECESSARY. MATCH PANEL SPECIFICATIONS. 22 KAIC MINIMUM.
11. PROVIDE (2) #12 & #12 G. IN 3/4" C. TO EXISTING ATTIC PANEL PA1. PROVIDE 15A/1P MCCB IN PANEL. MATCH PANEL SPECIFICATIONS. 22 KAIC MINIMUM. PROVIDE MOTOR RATED TOGGLE SWITCH DISCONNECT.
12. PROVIDE 120V CONNECTION TO INTEGRAL AHU LIGHTS AND RECEPTACLE. PROVIDE CONNECTION BETWEEN AHU SECTIONS AS NECESSARY. PROVIDE (2) #12 & #12 G. IN 3/4" C. TO EXISTING ATTIC PANEL PA1. PROVIDE 20A/1P MCCB IN PANEL. MATCH PANEL SPECIFICATIONS. 22 KAIC MINIMUM.
13. CONNECT TO 3RD FLOOR TELEPHONE CLOSET. PROVIDE 3/4" CONDUIT TO TELEPHONE CLOSET PUNCHDOWN CABINET. TERMINATE AS NECESSARY AT EXISTING EQUIPMENT. PROVIDE ALL ACCESSORIES AS NECESSARY. MATCH EXISTING EQUIPMENT.
14. PROVIDE 120 VOLT CONNECTION TO NEW BUILDING AUTOMATION PANEL. VERIFY LOCATION WITH MECHANICAL. CONNECT TO DEDICATED CIRCUIT FROM EXISTING EMERGENCY EQUIPMENT BRANCH PANEL. PROVIDE NEW 20A/1P MCCB AS NECESSARY. MATCH PANEL SPECIFICATIONS. 22 KAIC MINIMUM.